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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/851,233

05/08/2001

Bjorn Markus Jakobsson

46-7

3997

7590

07/28/2004

Docket Administrator (Room 3J-219)

Lucent Technologies Inc.

101 Crawfords Corner Road

Holmdel, NJ 07733

EXAMINER

NORRIS, TREMAYNE M

ART UNIT

PAPER NUMBER

2137

DATE MAILED: 07/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/851,233	Applicant(s) JAKOBSSON ET AL.	
	Examiner Tremayne M. Norris	Art Unit 2137	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 May 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 41-80 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 41-80 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 May 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 41,47,49-51,57,59-61,67,69-71,77,79,80 are rejected under 35 U.S.C. 102(e) as being anticipated by Brown et al (US pat 6,366,622).

Regarding claim 41, Brown teaches a method for use by a device operating on a network over which multiple devices belonging to a defined set communicate with each other by transmitting and receiving messages, the method comprising:

transmitting the messages at a frequency that hops from one frequency to another over time in accordance with a predictable hopping sequence that determines each frequency in the hopping sequence from a particular identifier associated with one of the devices and a universal time parameter (col.3 lines 51-53; col.4 lines 14-49);

characterized in that:

each frequency in the hopping sequence is determined from a known function of the particular identifier, the universal time parameter, and a seed that changes the

Art Unit: 2137

hopping sequence from that which would otherwise be determined from the particular identifier and the universal time parameter alone, whereby a pattern of changing transmit frequencies that is detected in messages received by a device outside the defined set is impeded from being associated with the particular identifier associated with one of the devices within the set (col.4 lines 38-49; col.24 lines 46-56).

Regarding claim 47, Brown teaches that the seed is at least a first random or pseudo-random number (col.24 lines 46-56).

Regarding claim 49, Brown teaches the seed is a combination of the first random or pseudo-random number and at least a second random or pseudo-random number that determined in part the sequence of frequencies in the hopping sequence used for transmitting messages within at least one previous session (col.3 lines 51-53; col.23 line 67 thru col.24 line 2; col.24 lines 46-56).

Regarding claim 50, Brown teaches the random or pseudo-random number is received in an encrypted form by the device from one of the other devices in the set, and the encrypted random or pseudo-random number is decrypted before being used as the seed (col.6 lines 46-61; col.21 lines 59-63; col.25 lines 52-63).

Claims 51,57,59,60 are substantially equivalent to claims 41,47,49,50 respectively, therefore claims 51,57,59,60 are rejected because of similar rationale.

Art Unit: 2137

Claims 61,67,69,70 are substantially equivalent to claims 41,47,49,50 respectively, therefore claims 61,67,69,70 are rejected because of similar rationale.

Claims 71,77,79,80 are substantially equivalent to claims 41,47,49,50 respectively, therefore claims 71,77,79,80 are rejected because of similar rationale.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 46,56,66,76 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown, and further in view of Srivastava (US pat 6,684,331).

Regarding claim 46, Brown teaches the method of claim 41, but does not teach the known function is a one-way function. Srivastava teaches a system of distributing shared session keys over a network and hashing those keys with a one-way function (col.18 lines 16-28). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Brown's apparatus for wireless communications with

Art Unit: 2137

Srivastava's teaching of one-way functions in order to reduce the probability of security leaks (Srivastava col.18 lines 22-28).

Claims 56,66,76 are substantially equivalent to claim 46, therefore claims 56,55,76 are rejected because of similar rationale.

5. Claims 42-45,48,52-55,58,62-65,68,72-75,78 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown, and further in view of Hawthorne (US pat 5,768,381).

Regarding claim 42, Brown teaches the method of claim 41, but does not teach that the seed is changed over time. Hawthorne teaches an encryption/decryption apparatus that employs random seeds for security, and that the seed is changed over time (col.5 line 40 thru col.6 line 7). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Brown's apparatus for wireless communications with Hawthorne's apparatus for key distribution in order to provide a strong encryption means by changing random session keys frequently (Hawthorne col.1 lines 24-27).

Regarding claim 43, Brown and Hawthorne in combination teach the method of claim 42, in addition Hawthorne teaches the seed is changed periodically (col.5 line 40 thru col.6 line 7).

Regarding claim 44, Brown and Hawthorne in combination teach the method of claim 42, in addition Hawthorne teaches the seed is changed aperiodically (col.5 line 40 thru col.6 line 7).

Regarding claim 45, Brown and Hawthorne in combination teach the method of claim 42, in addition Hawthorne teaches the seed is changed when a new session begins on one of the devices in the set (col.5 line 40 thru col.6 line 7).

Regarding claim 48, Brown and Hawthorne in combination teach the method of claim 42, in addition Brown teaches the seed is at least a first random or pseudo-random number that determines in part the sequence of frequencies in the hopping sequence used for transmitting messages within a current session (col.5 line 40 thru col.6 line 7).

Claims 52-55,58 are substantially equivalent to claims 42-45,48 respectively, therefore claims 52-55,58 are rejected because of similar rationale.

Claims 62-65,68 are substantially equivalent to claims 42-45,48 respectively, therefore claims 62-65,68 are rejected because of similar rationale.

Art Unit: 2137

Claims 72-75,78 are substantially equivalent to claims 42-45,48 respectively, therefore claims 72-75,78 are rejected because of similar rationale.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tremayne M. Norris whose telephone number is (703) 305-8045. The examiner can normally be reached on M-F 7:30AM-5:00PM alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Caldwell can be reached on (703) 306-3036. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Tremayne Norris

July 21, 2004


MATTHEW SMITHERS
PRIMARY EXAMINER
Art Unit 2137